

## CLAIMS

1. A method for scheduling splittable work orders to provide customers with requested service, the method comprising:

forming a list of appointment windows for days on which service may be performed;

identifying a request for service from a customer as being a splittable work order;

assigning to the splittable work order a job duration required to complete the order and a split time that is less than the job duration;

determining an appointment window on a first day during which a portion of the service to complete the work order may be scheduled, the appointment window being for the split time in duration;

determining at least one appointment window on a subsequent day or days during which the remainder of the service to complete the work order may be scheduled; and

scheduling the splittable work order by assigning the work order to the determined appointment windows on the first day and subsequent day or days.

2. The method of claim 1 wherein forming a list of appointment windows for days on which service may be performed comprises dividing a service area into a number of OSS areas, assigning an FSR to each OSS area where each FSR has an associated skill level, assigning at least one skill level to each OSS area, and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills.

3. The method of claim 2 wherein each window hierarchy comprises all day appointment windows, aggregate appointment windows, and basic appointment windows.

4. The method of claim 1 wherein each of the operations of determining further comprise determining whether a booking pattern is associated with the order and determining appointment windows as a function of any associated booking patterns.

5. The method of claim 1 wherein each booking pattern each booking pattern specifies particular days and times on such days during which service may be performed.

6. A method for scheduling splittable work orders to provide customers with requested service, the method comprising:

receiving customer requests from customers desiring service;

identifying a received request for service from a customer as being a splittable work order having a job duration required to complete the splittable work order and a split time that is less than the job duration;

requesting an appointment in a specific appointment window on a first day in response to the received customer request, the appointment window being for the split time;

validating the requested appointment against a number of scheduling constraints and against projected service resources for that window on the first day;

scheduling the appointment in the specific appointment window on the first day when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources;

requesting an appointment in a specific appointment window on a subsequent day or days during which the remainder of the splittable work order may be scheduled;

validating the requested appointment against the number of scheduling constraints and against projected service resources for that window on the subsequent day or days;

scheduling the appointment in the specific appointment window on the subsequent day or days when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources; and

advising the customer of the scheduled appointment.

7. The method of claim 6 wherein the booking constraints comprise booking patterns identifying allowable appointment windows during which appointments are permitted to be scheduled.

8. The method of claim 6 wherein the projected service resources comprise projected resources of field service representatives on the requested day and during the requested window.

9. The method of claim 6 wherein the operations of validating comprise dividing a service area into a number of OSS areas, assigning a field service representative to each OSS area where each field service representative has an associated skill level, assigning at least one skill level to each OSS area, and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills.

10. The method of claim 9 wherein each window hierarchy comprises all day appointment windows, aggregate appointment windows, and basic appointment windows.

11. The method of claim 6 wherein receiving customer requests from customers desiring service comprises receiving telephone calls by customer service representatives of the company providing the service.

12. The method of claim 11 wherein advising the customer of the scheduled appointment comprises advising the customer over the telephone as part of the same telephone call initially received by the customer service representative.

13. A method for scheduling splittable work orders to provide customers with requested service, the method comprising:

receiving customer requests from customers desiring service, the requests being received by customer service representatives;

identifying a received request for service from a customer as being a splittable work order having a job duration required to complete the splittable work order and a split time that is less than the job duration;

requesting an appointment in a specific appointment window on a first day in response to the received customer request, the appointment window being for the split time;

validating the requested appointment against a number of scheduling constraints and against projected service resources for that window on the first day;

scheduling the appointment in the specific appointment window on the first day when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources;

requesting an appointment in a specific appointment window on a subsequent day or days during which the remainder of the splittable work order may be scheduled;

validating the requested appointment against the number of scheduling constraints and against projected service resources for that window on the subsequent day or days;

scheduling the appointment in the specific appointment window on the subsequent day or days when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources;

advising the customer of the scheduled appointment by the customer service representative; and

if either validation fails,

providing the customer service representative with a set of alternate appointment windows over multiple days in which the splittable work order may be scheduled; and

advising the customer of the alternative appointment windows.

14. The method of claim 13 wherein providing the customer service representative with a set of alternate appointment windows over multiple days in which the splittable work order may be scheduled includes informing the customer service representative of the reason either validation failed.

15. The method of claim 14 wherein informing the customer service representative of the reason either or both validations failed includes providing the customer service representative with an indication that the reason for the failure was the result of insufficient projected service resources.

16. The method of claim 15 wherein providing the customer service representative with an indication that the reason for the failure was the result of insufficient

projected service resources includes providing the representative with the degree to which the requested appointment windows are overbooked.

17. The method of claim 16 wherein the customer service representative schedules the requested appointment in the alternative appointment windows or schedules the appointment in the originally requested windows using an override procedure.

18. The method of claim 13 wherein the customer service representative requests a list of all available appointment windows into which the splittable work order may be scheduled when either validation failed, and the representative schedules the order into one of the available windows.

19. The method of claim 13 wherein the booking constraints comprise booking patterns identifying allowable appointment windows during which appointments are permitted to be scheduled.

20. The method of claim 13 wherein the projected service resources comprise projected resources of field service representatives on the requested day and during the requested window.

21. The method of claim 13 wherein the operations of validating comprise dividing a service area into a number of OSS areas, assigning a field service representative to each OSS area where each field service representative has an associated skill level, assigning at least one skill level to each OSS area, and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills.

22. The method of claim 21 wherein each window hierarchy comprises all day appointment windows, aggregate appointment windows, and basic appointment windows.

23. The method of claim 13 wherein advising the customer of the scheduled appointment comprises advising the customer over the telephone as part of the same telephone call initially received by the customer service representative.

24. A computer-readable medium containing a program for scheduling splittable work orders to provide customers with requested service, the program scheduling the work orders by performing operations comprising:

forming a list of appointment windows for days on which service may be performed;

identifying a request for service from a customer as being a splittable work order;

assigning to the splittable work order a job duration required to complete the order and a split time that is less than the job duration;

determining an appointment window on a first day during which a portion of the service to complete the work order may be scheduled, the appointment window being for the split time in duration;

determining at least one appointment window on a subsequent day or days during which the remainder of the service to complete the work order may be scheduled; and

scheduling the splittable work order by assigning the work order to the determined appointment windows on the first day and subsequent day or days.

25. The computer-readable medium of claim 24 wherein forming a list of appointment windows for days on which service may be performed comprises dividing a service area into a number of OSS areas, assigning an FSR to each OSS area where each FSR has an associated skill level, assigning at least one skill level to each OSS area, and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills.

26. The computer-readable medium of claim 25 wherein each window hierarchy comprises all day appointment windows, aggregate appointment windows, and basic appointment windows.

27. The computer-readable medium of claim 24 wherein each of the determining operations further comprise determining whether a booking pattern is associated with the order and determining appointment windows as a function of any associated booking patterns.

28. The computer-readable medium of claim 24 wherein each booking pattern each booking pattern specifies particular days and times on such days during which service may be performed.

29. A computer-readable medium containing a program for scheduling splittable work orders to provide customers with requested service, the program scheduling the work orders by performing operations comprising:

receiving customer requests from customers desiring service;

identifying a received request for service from a customer as being a splittable work order having a job duration required to complete the splittable work order and a split time that is less than the job duration;

requesting an appointment in a specific appointment window on a first day in response to the received customer request, the appointment window being for the split time;

validating the requested appointment against a number of scheduling constraints and against projected service resources for that window on the first day;

scheduling the appointment in the specific appointment window on the first day when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources;

requesting an appointment in a specific appointment window on a subsequent day or days during which the remainder of the splittable work order may be scheduled;

validating the requested appointment against the number of scheduling constraints and against projected service resources for that window on the subsequent day or days;

scheduling the appointment in the specific appointment window on the subsequent day or days when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources; and  
advising the customer of the scheduled appointment.

30. The computer-readable medium of claim 29 wherein the booking constraints comprise booking patterns identifying allowable appointment windows during which appointments are permitted to be scheduled.

31. The computer-readable medium of claim 29 wherein the projected service resources comprise projected resources of field service representatives on the requested day and during the requested window.

32. The computer-readable medium of claim 29 wherein the operations of validating comprise dividing a service area into a number of OSS areas, assigning a field service representative to each OSS area where each field service representative has an associated skill level, assigning at least one skill level to each OSS area, and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills.

33. The computer-readable medium of claim 32 wherein each window hierarchy comprises all day appointment windows, aggregate appointment windows, and basic appointment windows.

34. The computer-readable medium of claim 29 wherein receiving customer requests from customers desiring service comprises receiving telephone calls by customer service representatives of the company providing the service.

35. The computer-readable medium of claim 34 wherein advising the customer of the scheduled appointment comprises advising the customer over the telephone as part of the same telephone call initially received by the customer service representative.



36. A computer-readable medium containing a program for scheduling splittable work orders to provide customers with requested service, the program scheduling the work orders by performing operations comprising:

receiving customer requests from customers desiring service, the requests being received by customer service representatives;

identifying a received request for service from a customer as being a splittable work order having a job duration required to complete the splittable work order and a split time that is less than the job duration;

requesting an appointment in a specific appointment window on a first day in response to the received customer request, the appointment window being for the split time;

validating the requested appointment against a number of scheduling constraints and against projected service resources for that window on the first day;

scheduling the appointment in the specific appointment window on the first day when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources;

requesting an appointment in a specific appointment window on a subsequent day or days during which the remainder of the splittable work order may be scheduled;

validating the requested appointment against the number of scheduling constraints and against projected service resources for that window on the subsequent day or days;

scheduling the appointment in the specific appointment window on the subsequent day or days when the validation indicates the appointment can be scheduled given the scheduling constraints and projected service resources;

advising the customer of the scheduled appointment by the customer service representative; and

if either validation fails,

providing the customer service representative with a set of alternate appointment windows over multiple days in which the splittable work order may be scheduled; and

advising the customer of the alternative appointment windows.

37. The computer-readable medium of claim 36 wherein providing the customer service representative with a set of alternate appointment windows over multiple days

in which the splittable work order may be scheduled includes informing the customer service representative of the reason either validation failed.

38. The computer-readable medium of claim 37 wherein informing the customer service representative of the reason either or both validations failed includes providing the customer service representative with an indication that the reason for the failure was the result of insufficient projected service resources.

39. The computer-readable medium of claim 38 wherein providing the customer service representative with an indication that the reason for the failure was the result of insufficient projected service resources includes providing the representative with the degree to which the requested appointment windows are overbooked.

40. The computer-readable medium of claim 39 wherein the customer service representative schedules the requested appointment in the alternative appointment windows or schedules the appointment in the originally requested windows using an override procedure.

41. The computer-readable medium of claim 36 wherein the customer service representative requests a list of all available appointment windows into which the splittable work order may be scheduled when either validation failed, and the representative schedules the order into one of the available windows.

42. The computer-readable medium of claim 36 wherein the booking constraints comprise booking patterns identifying allowable appointment windows during which appointments are permitted to be scheduled.

43. The computer-readable medium of claim 36 wherein the projected service resources comprise projected resources of field service representatives on the requested day and during the requested window.

44. The computer-readable medium of claim 36 wherein the operations of validating comprise dividing a service area into a number of OSS areas, assigning a field service representative to each OSS area where each field service representative has an associated skill

level, assigning at least one skill level to each OSS area, and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills.

45. The computer-readable medium of claim 44 wherein each window hierarchy comprises all day appointment windows, aggregate appointment windows, and basic appointment windows.

46. The computer-readable medium of claim 36 wherein advising the customer of the scheduled appointment comprises advising the customer over the telephone as part of the same telephone call initially received by the customer service representative.

47. A server computer system for scheduling splittable work orders, the system comprising an order scheduling component adapted to receive requests for scheduling splittable work orders from client computer systems, the scheduling component being operable responsive to a client computer initiating a request to schedule a splittable work order to assign to the splittable work order a job duration required to complete the order and a split time that is less than the job duration, determine an appointment window on a first day during which a portion of the service to complete the work order may be scheduled, the appointment window being for the split time in duration, determine at least one appointment window on a subsequent day or days during which the remainder of the service to complete the work order may be scheduled, and schedule the splittable work order by assigning the work order to the determined appointment windows on the first day and subsequent day or days, the scheduling component communicating to the client computer initiating the request information about the scheduled work order.

48. The server computer system of claim 47 wherein requests initiated from the client computers and information about the scheduled work order are formulated into message packets adapted to be communicated over a communications network including the Internet.

49. The server computer system of claim 47 wherein the scheduling component includes a system tables component containing booking constraints against which the requested orders are scheduled.

50. The server computer system of claim 47 wherein the scheduling component includes a remote access component that provides a manager remote access to the scheduling component.